SERVICE DATA
FILE NO. 110-259

TOSHIBA

STEREO RADIO CASSETTE RECORDER

RT-S501D

SPECIFICATIONS			
Cassette tape used:	C-30, C-60, C-90, C-120	Jacks:	[MIC] jack x 2, Impedance 200 – 2K ohm [AUX] jack x 2, Impedance 50K ohm [PHONES] jack headphone
Tape speed:	4.8 cm/sec.		
Track system:	Four-track, two-channel stereophonic		
Recording system:	AC bias (55 kHz)		
Erasing system:	Multipolar magnet erasing	Power supply:	AC 120V, 60 Hz (TA, TC) AC 240V, 50 Hz (AY) DC 9 V (SUM-1 "D" size x 6)
Frequency response:	60 Hz to 10 kHz		
Receiving frequency:	FM: 88 – 108 MHz AM: 525 – 1605 kHz	Power consumption:	10 W
		Dimensions (W x H x D):	391 mm x 281 mm x 127 mm
Intermediate frequency:	FM: 10.7 MHz AM: 455 kHz	Weight:	2.9 kg (without batteries)
Antenna:	FM: telescopic antenna AM: ferrite-core antenna	Power output:	2W x 2 10% Distortion
Speakers:	120 mm (dia.) dynamic x 2		

Specifications are subject to change without notice.

TA, TC, AY

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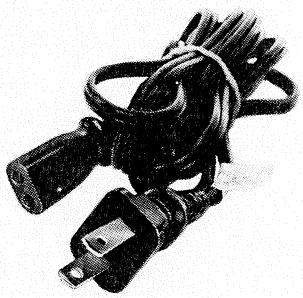
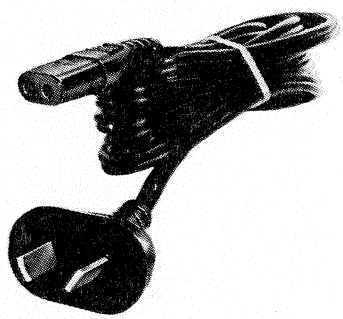
Power Cord



TA, TC

Power Cord

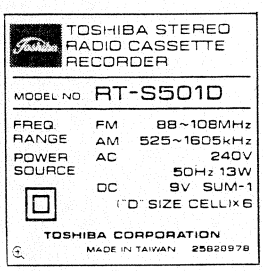


AY

Nameplate

TA , TC

Nameplate



AY

1. OPERATING CONTROLS

CONTROL FUNCTIONS

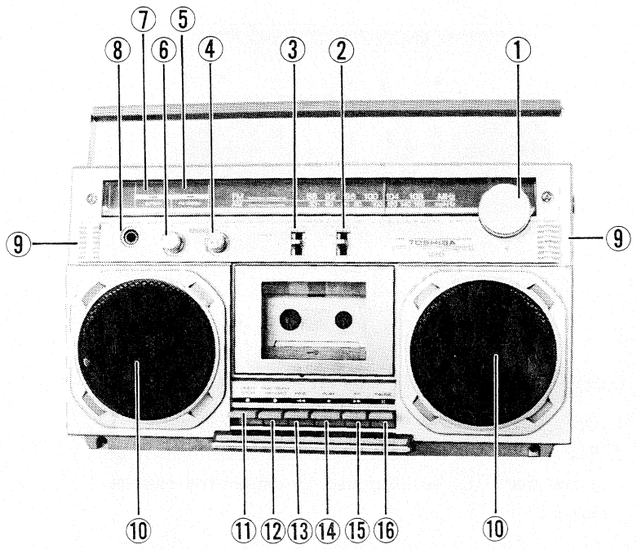


Figure 1.

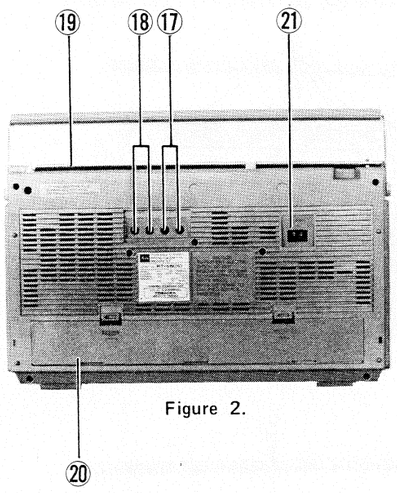


Figure 2.

① **Tuning Knob**

② **[FUNCTION] Selector**
Select the required program source by switching to the corresponding position.
FM: For listening to radio broadcast of FM
AM: For listening to radio broadcast of AM
RADIO OFF/TAPE: For tape playback, and recording via the built-in microphone and external microphones.

③ **[MODE] Selector**
Switch to the STEREO position for stereo listening, or to the MONO position for monaural listening. In the STEREO WIDE position, an even greater stereo effect is obtained.

④ **[VOLUME] Control**
Turn to adjust the volume level when listening on the speakers or headphones. In the low volume region marked LOUDNESS (thick line), the treble and bass tones are amplified to give a more natural sound at low listening levels.

⑤ **[FM STEREO] Indicator**
This indicator lights when an FM stereo broadcast is received (even when the MODE selector is in the MONO position.)

⑥ **[TONE] Control**
Turn this knob clockwise to emphasize the tone.

⑦ **[BATTERY] Indicator**
This indicator lights while the set is turned on as long as there is sufficient power in the batteries. (When AC mains power is used, the lamp stays on.)

⑧ **[PHONES] Jack**
To listen via a pair of headphones, connect to this jack. (Inserting the headphone plug automatically switches off the speakers.)

⑨ **Built-in Microphones**

⑩ **Speaker**

⑪ **[■STOP/OPEN] Key**
To stop the tape, press this key once. To open the cassette compartment, press a second time.

⑫ **[● ONE TOUCH RECORD] Key**
When this key is pressed, thereby starting recording.

⑬ **[◀◀REW] Key**
For rapid rewinding of the tape.

⑭ **[▶PLAY] Key**
Press this key to play recorded tapes.

⑮ **[▶▶FF] Key**
For rapid forward winding of the tape.

⑯ **[❚❚PAUSE] Key**
Press to stop the tape temporarily during recording or playback. Press a second time to resume the recording or playback.

⑰ **[MIC] Jacks**
Microphones with 3.5mm plugs (outside diameter) may be connected to these jacks.

⑱ **[AUX] Jacks**
To record via an external stereo amplifier, connect a cord with phonoplugs (optional) to these jacks.

⑲ **Telescopic Antenna**
Adjust the direction and length of this antenna to obtain the optimum sound when listening to FM radio broadcasts.

⑳ **Batteries Compartment**

㉑ **[AC POWER] Socket**

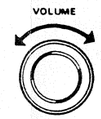
OPERATION

■ Listening to the Radio

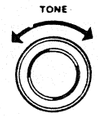
1 Set the [FUNCTION] selector ② to either the FM or AM position as desired.

2 Turn the [TUNING] knob ① to tune in the desired radio station. For FM stations, adjust the antenna ⑲ direction and length to obtain best reception.

3 Adjust to suitable volume level by tuning the [VOLUME] control ④.



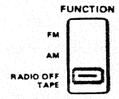
4 Adjust the tone by turning the [TONE] control ⑥.



■ Listening to Tapes

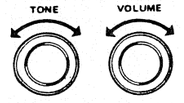
1 Press the [■STOP/OPEN] key ⑪ to open the cassette compartment, and insert a recorded tape.

2 Set the [FUNCTION] selector ② to the TAPE position.



3 Press the [▶PLAY] key ⑭ to start the tape.

4 Adjust the [VOLUME] ④ and [TONE] ⑥ controls.

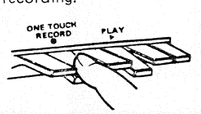


■ Recording Radio Broadcasts

1 Tune to the desired station as described above under "Listening to the Radio".

2 Press the [■STOP/OPEN] key ⑪, and insert a blank tape.

3 Press the [● ONE TOUCH RECORD] key ⑫ to start recording.



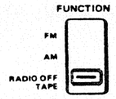
Since the RT-S501D has been designed with an automatic recording level adjustment circuit (ALC), a suitable recording level will be set automatically without any further operations.

Furthermore, this set also features a "variable monitor system" permitting the listener to change the listening volume without effecting the recording level.

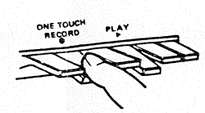
■ Recording via Built-in Microphones

1 Press the [■STOP/OPEN] key ⑪ and insert a blank tape.

2 Set the [FUNCTION] selector ② to the TAPE position.



3 Press the [● ONE TOUCH RECORD] key ⑫ to start the recording.



■ **Recording with External Microphones**

Plug external microphones (optional) into the MIC jacks in the rear of the set, and then proceed in exactly the same way as described above for "Recording via Built-in Microphones."

■ **Recording from other Audio Equipment**

An external amplifier can be connected to the [AUX] jacks (18) in the rear of the set. To record, switch the [FUNCTION] selector (2) to the TAPE position, and then proceed in exactly the same way as described above for "Recording via Built-in Microphones."

Auto Shut-Off (ASO) Mechanism

When the end of the tape is reached during recording and playback, depressed buttons are automatically released and the tape is automatically stop.

Note when a radio program is being recorded, however, power to the radio section will not be switched off until the [FUNCTION] selector (2) is set to the "RADIO OFF/TAPE" position. Also note that the ASO mechanism does not operate in fast forward or rewind modes. In these cases, the [■STOP/OPEN] key (11) must be pressed to stop the tape and release the depressed key.

TIMER RECORDINGS

■ By connecting the RT-S501D to an audio timer (optional), radio programs can be recorded at any desired preset time.

1. Tune to the desired radio station as described earlier under "Listening to the Radio".
2. Insert a blank cassette tape in the compartment.
3. Set the audio timer to the desired recording start time, and then connect the RT-S501D power cord to the timer.
4. Press the [●ONE TOUCH RECORD] key (12).
5. At the preset time, the RT-S501D power will be switched on, and recording will start automatically.

Note 1: The timer recording will not start at the preset time if the [❚❚PAUSE] key (16) has been left set.

Note 2: When the end of the tape is reached at the end of the recording, the ASO mechanism will stop the tape and release the keys, but the radio power will remain on. In order to have the RT-S501D power supply completely switched off after a recording, an audio timer that has been designed to switch the power off again at the end of a recording must be used.

POWER SUPPLY

Batteries (Optional)

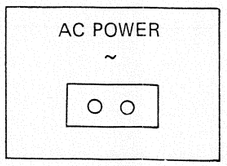
Open the battery cover, insert six dry cells (SUM-1 "D" size), observe correct polarity (+, –) indication.

To check the condition of the batteries

When the set is switched on, the [BATTERY] indicator (7) should light. If it fails to light, the batteries have run down, and all 6 batteries must be replaced with fresh SUM-1 "D" size batteries.

AC POWER

Plug the power cord into the [AC POWER] socket (21) (voltage: 120V, TA, TC --- 240V, AY) on the back of the cassette recorder, and the other end into an appropriate AC socket.



2. DISASSEMBLY INSTRUCTIONS

FRONT PANEL REMOVAL

1. Remove 5 Knobs (A).
2. Remove 4 Screws (B), (C).
3. Remove the cassette cover.
4. Remove 1 Screw (D) to detach the front panel.

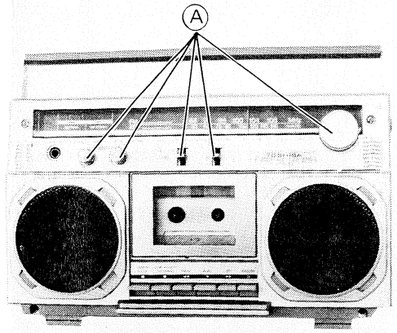


Figure 3.

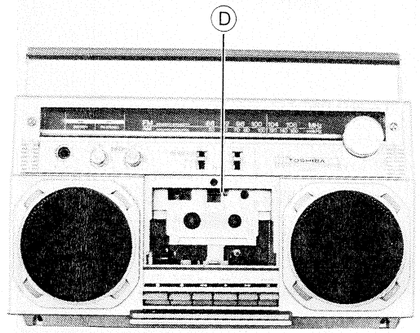


Figure 5.

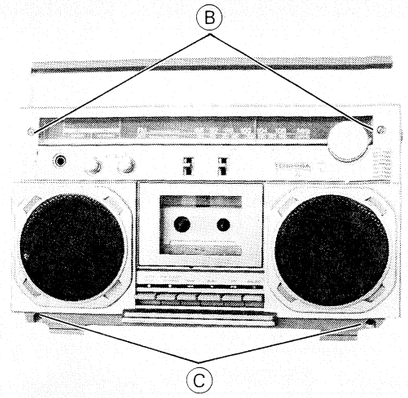


Figure 4.

CASSETTE COVER REMOVAL

1. Open the cassette cover.
2. Push both ends of cassette cover in the direction of arrow mark (E) as illustrated to detach the cassette cover.

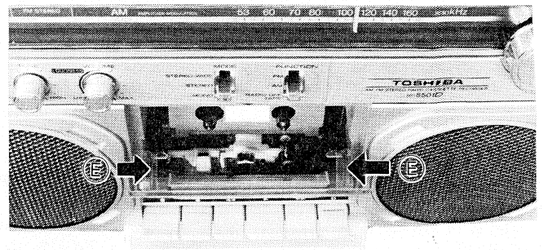


Figure 6.

MAIN P.C. BOARD REMOVAL

1. Remove 4 Screws (F), (G) to detach the P.C. Board.

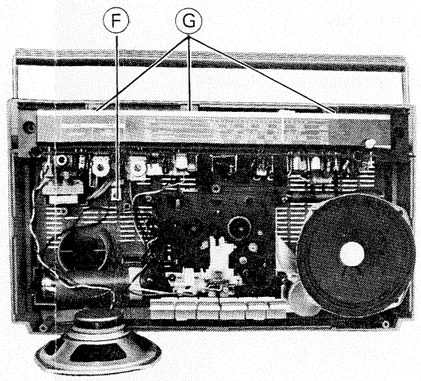


Figure 7.

MECHANICAL ASSEMBLY REMOVAL

1. Remove 4 Screws (H) to detach the mechanical assembly.

Main P.C. Board Removed

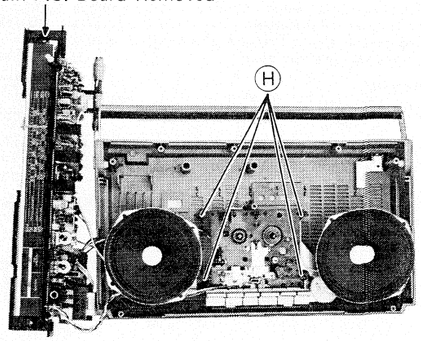


Figure 8.

3. HANDLE REMOVAL

When replacing the handle, remove it by cutting the handle washer shown in figure below with nipper etc.

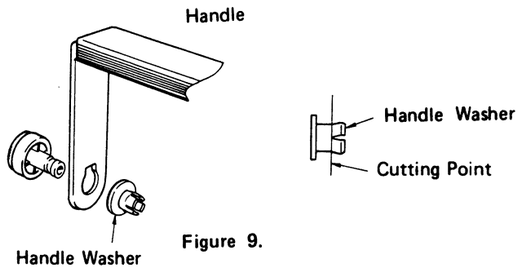


Figure 9.

4. METHOD OF P.R.C. REPAIRING

Cut defective printed-resistor-circuit off by knife. See Figure 10. Solder the replacement resistor (See replacement resistor parts list) on the opposite side of printed-circuit-board. See Figure 11.

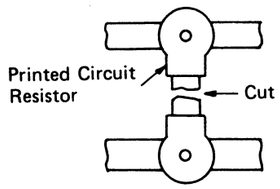


Figure 10.

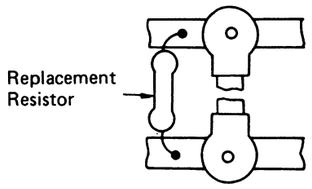


Figure 11.

5. DIAL CORD RESTRINGING

1. Turn the variable capacitor fully clockwise.
2. Wind the dial cord in the direction of arrow in numerical order.
3. Mount the pointer at the "0" position of scale with the turning shaft rotating fully counterclockwise.

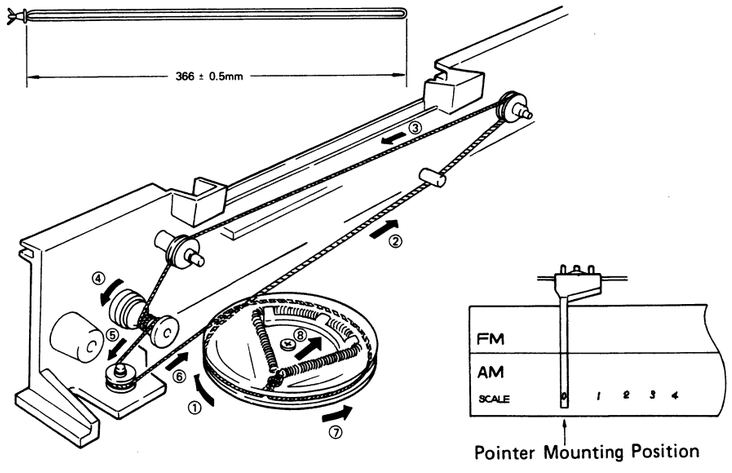


Figure 12.

6. BLOCK DIAGRAM

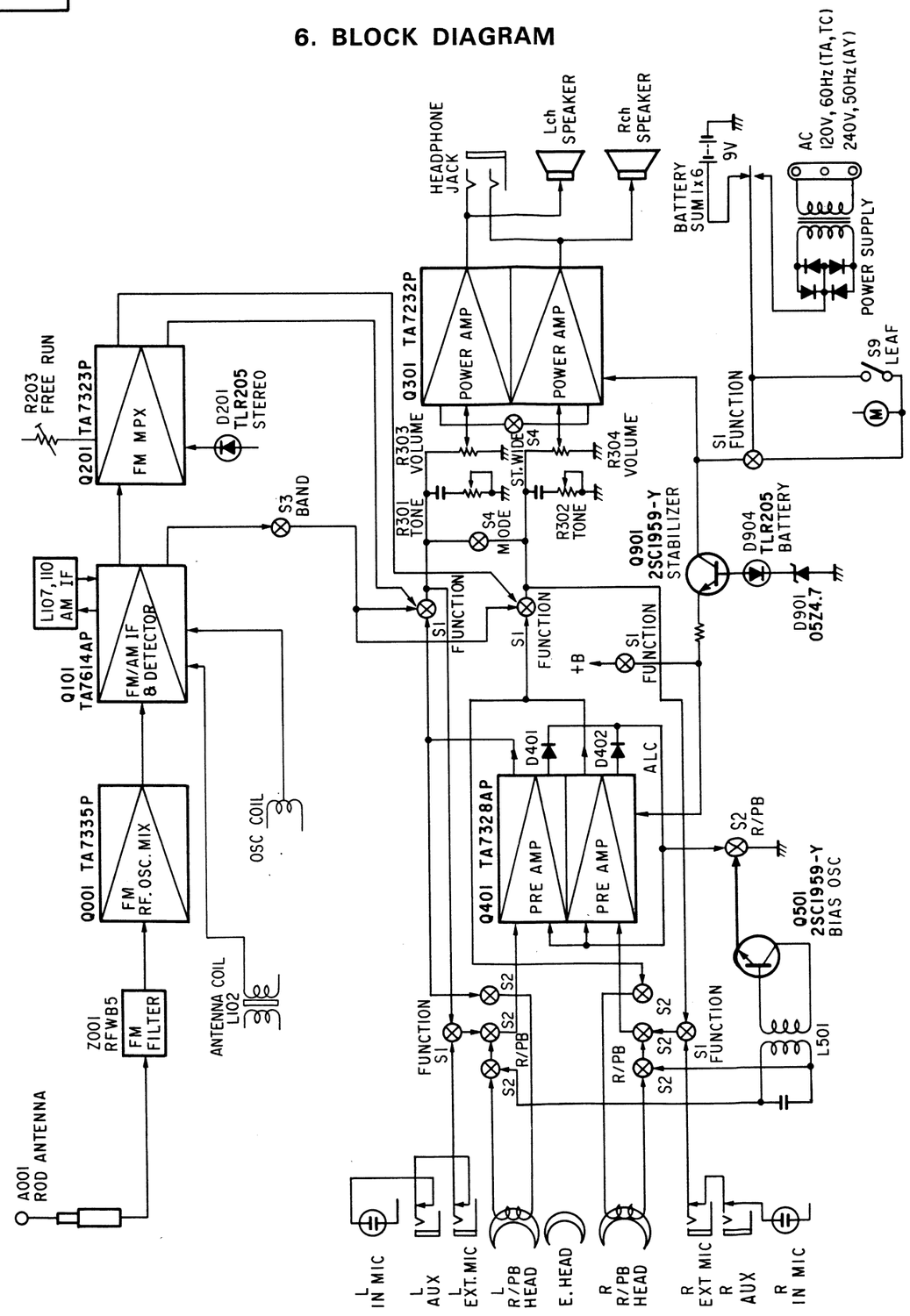


Figure 13.

7. ALIGNMENT INSTRUCTIONS

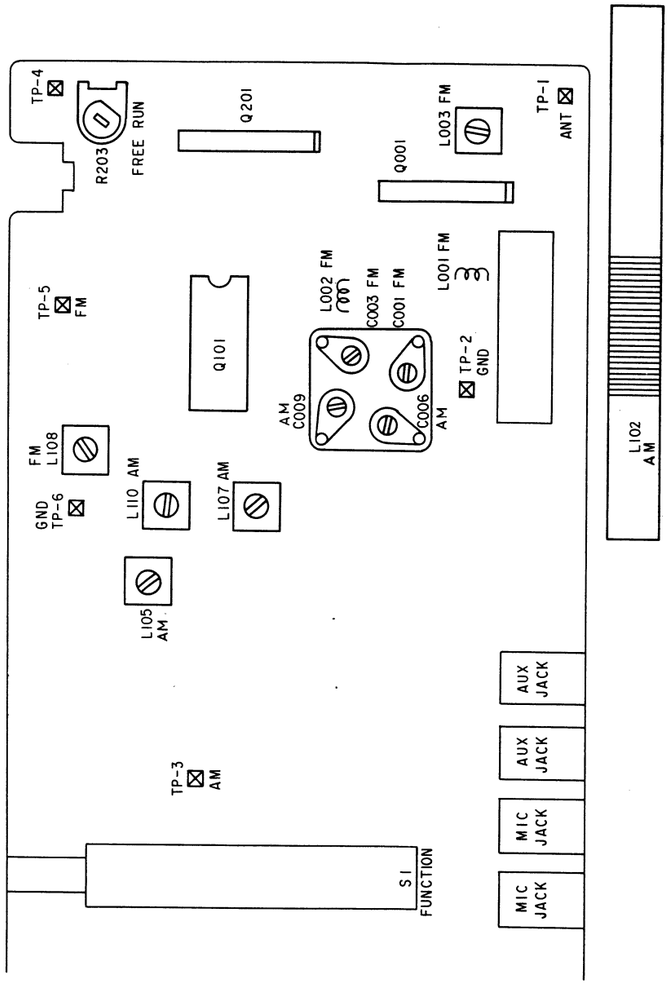


Figure 14.

TEST EQUIPMENT

1. Signal generator with a frequency range of at least from 455 kHz to 23 MHz AM.
2. Oscilloscope with a wide range amplifier of approximately 100 kHz.
3. Test loop – a coil of any size wire, one turn or more. (AM)
4. VTVM

AM ALIGNMENT

1. Turn on the AM signal generator and the VTVM allowing a fifteen-minute warm-up period.
2. Using the test loop across the output of the signal generator, inductively connect the signal generator to the radio.
3. Connect the VTVM across the voice coil or a 4 ohm dummy load.
4. Set signal generator frequency as listed in ALIGNMENT CHART and maintain a sufficient output level to provide an indication on VTVM.
5. Set volume control at mid-position.
6. Proceed as outlined in the IF-AM, SW1 and SW2 ALIGNMENT CHART.

AM ALIGNMENT CHART

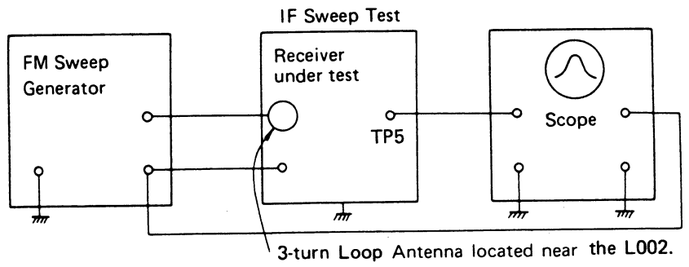
Band	Step	Signal Generator Frequency	Radio Dial Setting	Adjustment	Remarks
IF	1	455 kHz	Tuning Gang Fully Counter-clockwise (Lowest Frequency)	L107 L110	Adjust for maximum indication.
MW	2	510 kHz	Tuning Gang Fully Counter-clockwise (Lowest Frequency)	OSC. coil L105 (AM)	Adjust for maximum indication.
	3	1650 kHz	Tuning Gang Fully clockwise (Highest Frequency)	OSC. Trim C009	Adjust for maximum indication.
	4	Repeat steps 2 and 3 as required.			
	5	600 kHz	Tune to Signal.	Ant. Coil L102	Adjust for maximum indication.
	6	1400 kHz	Tune to Signal.	Ant. Trim. C006	Adjust for maximum indication.
	7	Repeat steps 5 and 6 as required.			

FM-IF ALIGNMENT

1. Set the select switch to FM position.
2. Turn on both sweep generator and oscilloscope, and allow a fifteen-minute warm-up period.
3. Connect the RF SWEEP SIGNAL OUTPUT from the signal generator through the loop antenna to the receiver.
4. Connect the oscilloscope vertical input directly to the test point TP-5 and connect the shielded lead to the test point E or chassis ground.
5. Connect the SWEEP VOLTAGE OUTPUT of the sweep generator to the oscilloscope.
6. Proceed as outlined in the FM-IF ALIGNMENT CHART.

FM-IF ALIGNMENT CHART

Step	Signal coupling	Equip.	Tuning	Connection	Adjust. point	Pattern
1	Connect sweep generator output to a three-turn loop antenna of 10cm diameter.	Sweep generator of 10.7 MHz center freq. with 10.7 MHz marker.	Tuning Knob fully counter-clockwise (Lowest Frequency.)	Set scope for connecting output signal from TP-5 to vertical axis of scope "V" and sweep generator output to horizontal axis "H".	L003 L108	Turn the coil L108 fully counterclockwise to obtain a single peak. Adjust coil L003 in order until the best single peak is obtained. Figure 16. Finally turn the coil L108 to obtain S curve. See Fig. 17.



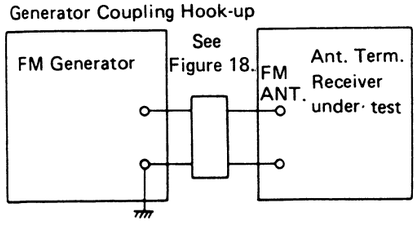


Figure 15.

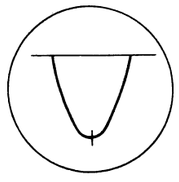


Figure 16.

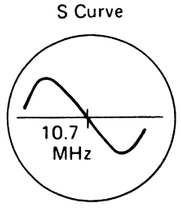


Figure 17.

FM-RF ALIGNMENT CHART

Step	Signal Generator	Radio Dial Setting	Adjustment	Remarks
1	87.3 MHz	Tuning Knob fully Counterclockwise (Lowest Frequency)	OSC. Coil L002	Adjust for maximum output indication
2	109MHz	Tuning Knob fully Clockwise (Highest Frequency)	OSC. Trim. C003	Adjust for maximum output indication
3	Repeat steps 1 and 2 as required.			
4	90MHz	Tune to signal	Ant. Coil L001	Adjust for maximum output indication
5	106MHz		Ant. Trim. C001	
6	Repeat steps 4 and 5 as required.			

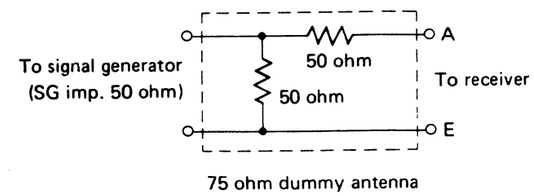


Figure 18.

FREE RUN FREQUENCY ALIGNMENT

Adjust R203 under no signal condition so as to obtain 76 kHz ± 150 Hz.

RECORD/PLAYBACK HEAD ADJUSTMENT

A 6.3 kHz standard tape must be used for this adjustment. Connect a VTVM or an oscilloscope to the EXT Speaker jack and adjust the azimuth by using a phillips screwdriver to maintain the maximum output voltage.

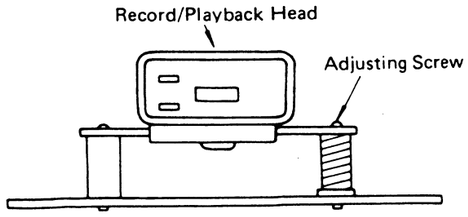


Figure 19. Record/Playback Head Adjustment

8. ELECTRICAL PARTS LOCATIONS

Q401

	12	11	10	9	8	7	6	5	4	3	2	1
REC	2.2V	2.9V	0V	1.2V	0V	0V	0.45V	0V	1.2V	2.9V	2.2V	5.6V
PLAY		3V		2.2V			0V		2.2V	3V		

Q501

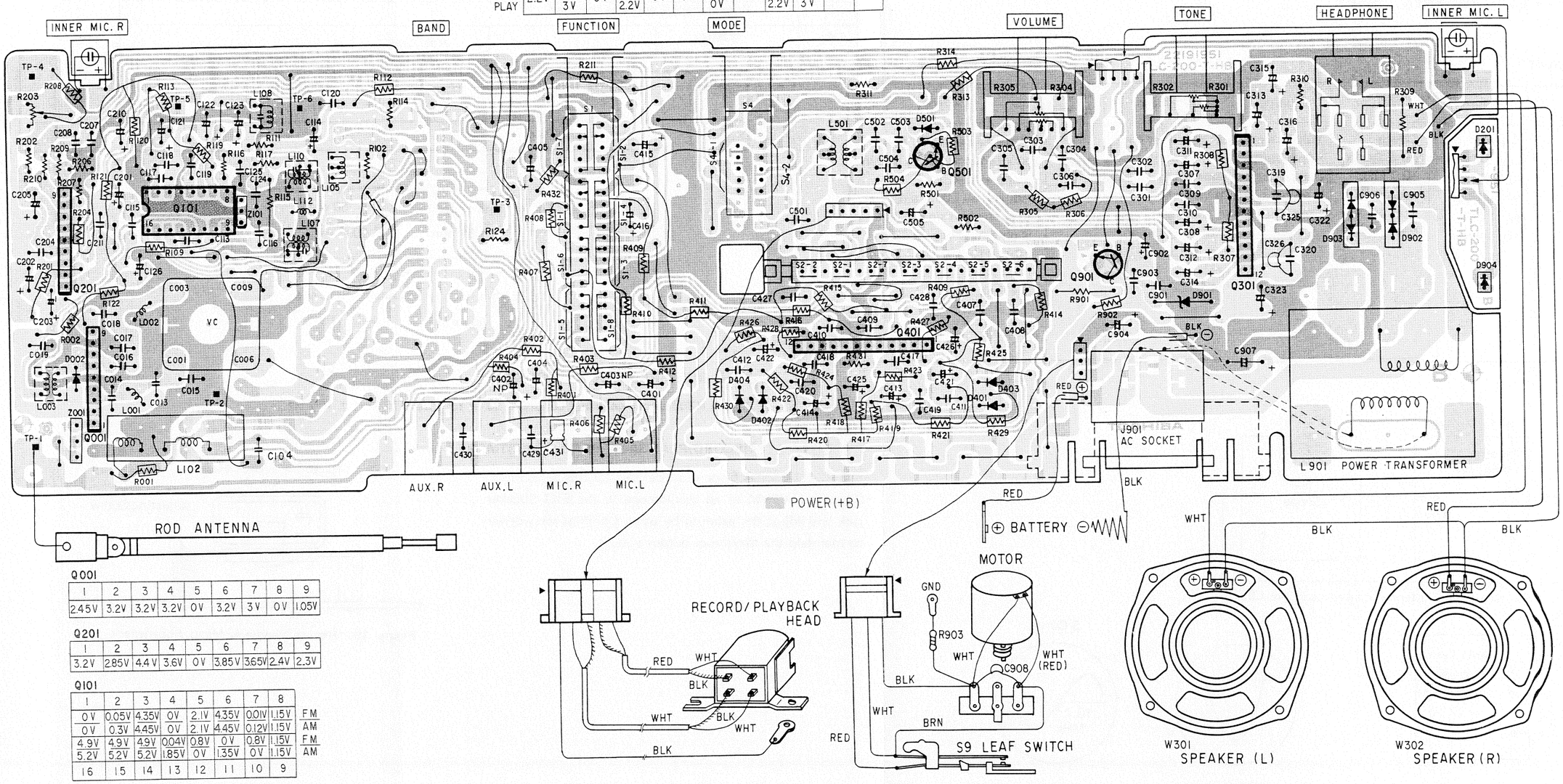
E	B	C
0.28V	0.38V	5.45V

Q901

E	B	C
5.8V	6.5V	9V

Q301

1	2	3	4	5	6	7	8	9	10	11	12
8.8V	4.5V	0V	0.56V	0V	5.6V	0V	0V	0.56V	8.8V	4.6V	9V



Q001

1	2	3	4	5	6	7	8	9
2.45V	3.2V	3.2V	3.2V	0V	3.2V	3V	0V	1.05V

Q201

1	2	3	4	5	6	7	8	9
3.2V	2.85V	4.4V	3.6V	0V	3.85V	3.65V	2.4V	2.3V

Q101

1	2	3	4	5	6	7	8	
0V	0.05V	4.35V	0V	2.1V	4.35V	0.01V	1.15V	FM
0V	0.3V	4.45V	0V	2.1V	4.45V	0.12V	1.15V	AM
4.9V	4.9V	4.9V	0.04V	0.8V	0V	0.8V	1.15V	FM
5.2V	5.2V	5.2V	1.85V	0V	1.35V	0V	1.15V	AM
16	15	14	13	12	11	10	9	

Figure 20.

9. SCHEMATIC DIAGRAM

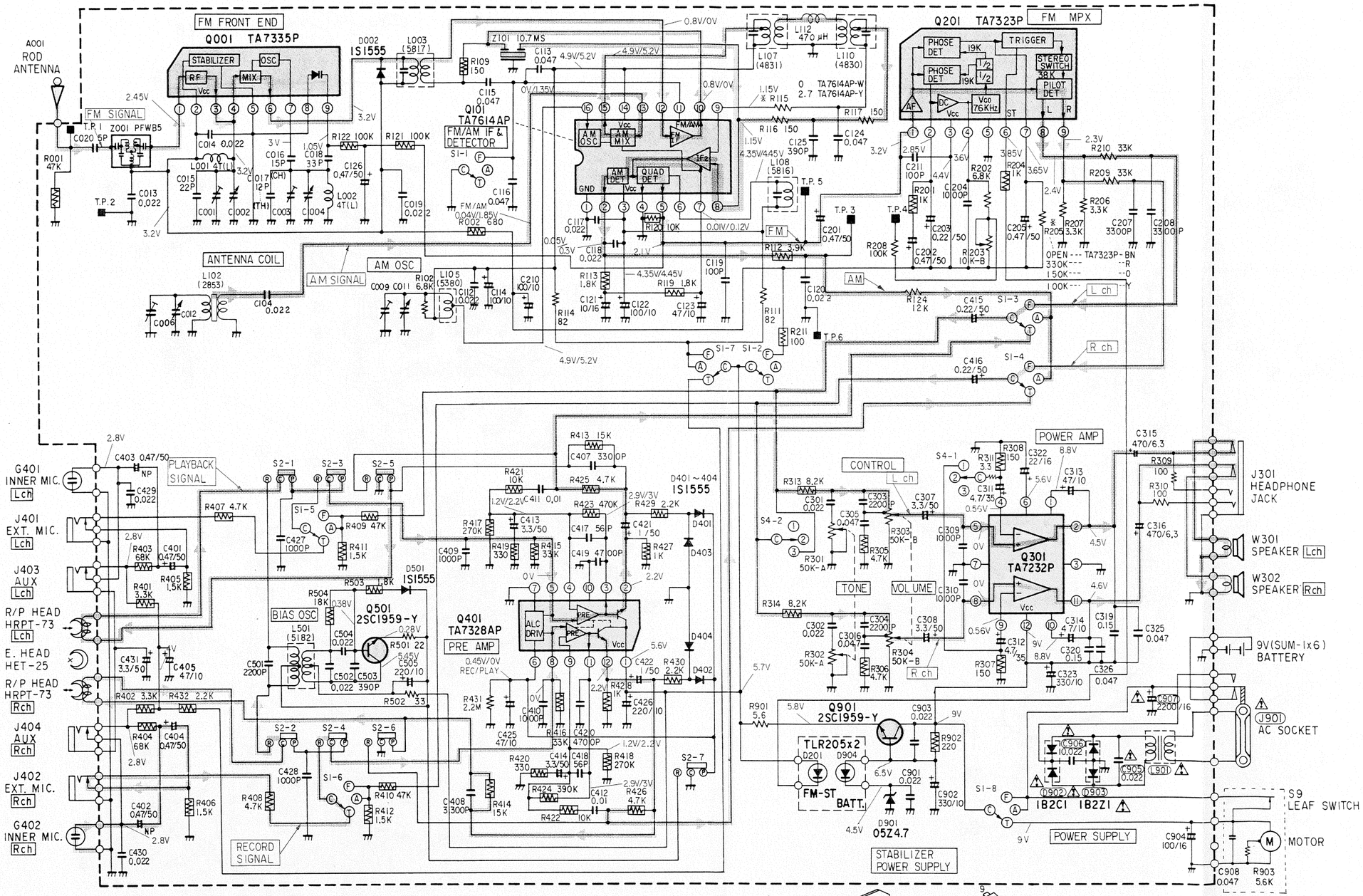
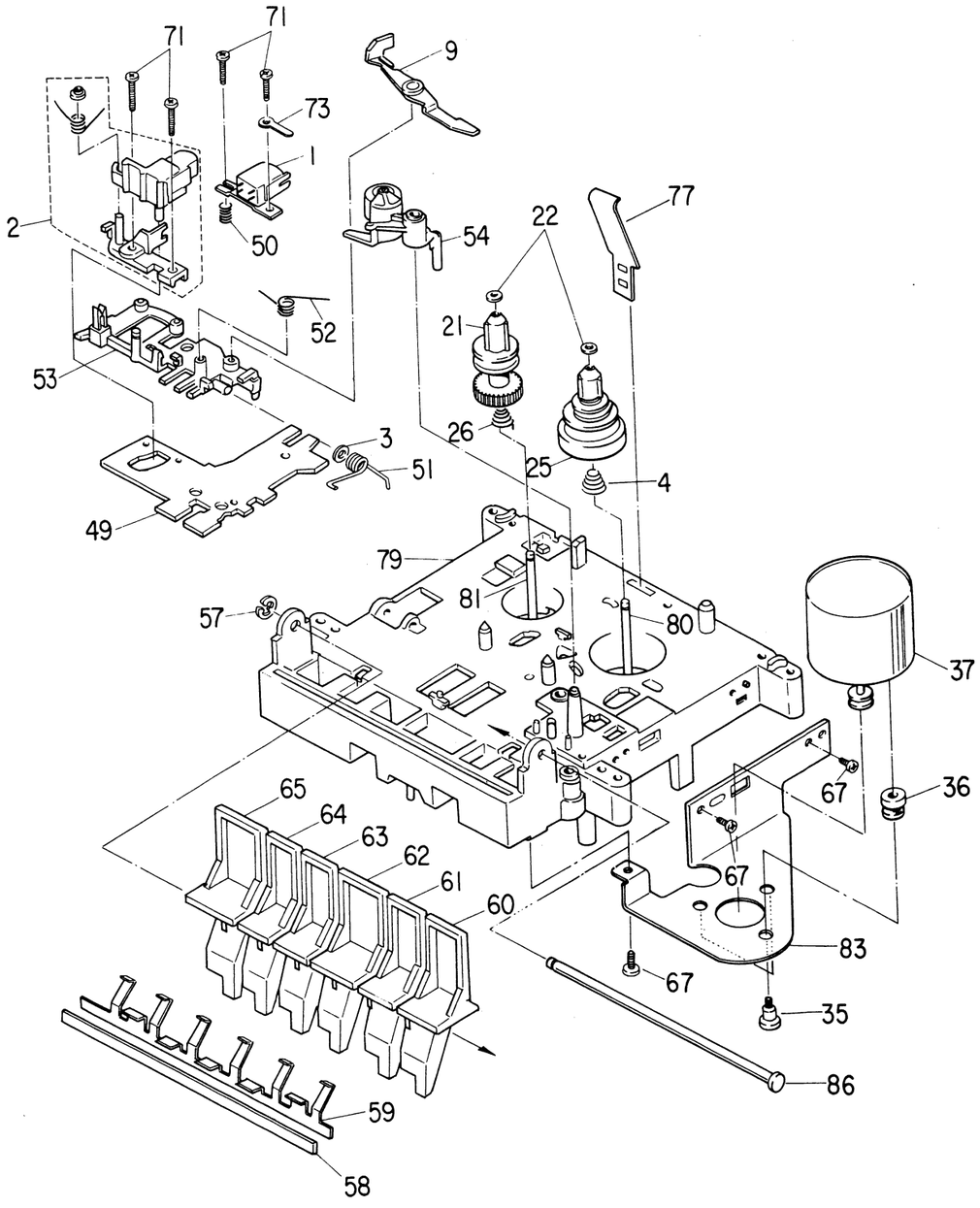


Figure 21.

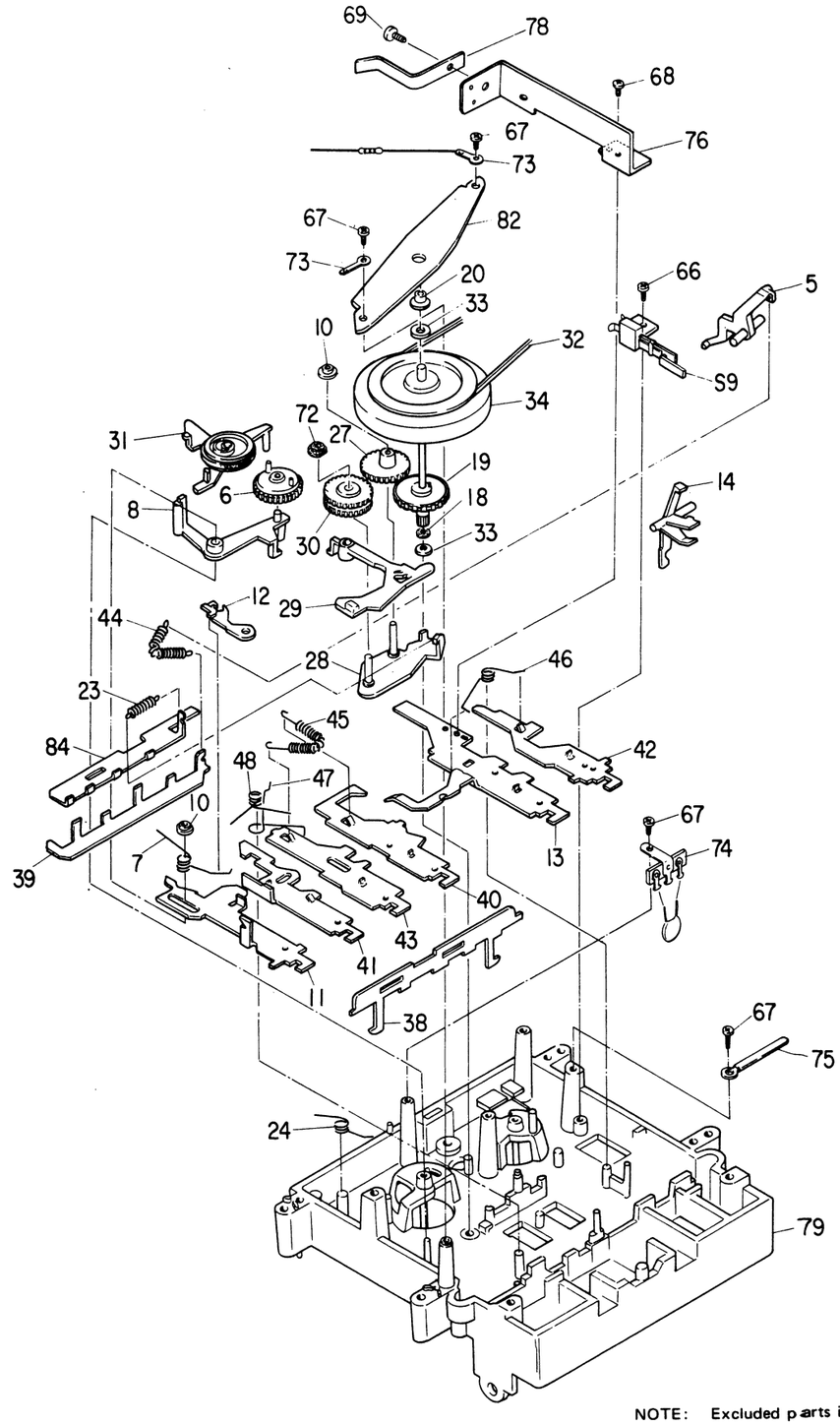
10–1. MECHANISM EXPLODED VIEW (UPPER)



NOTE: Excluded parts in the Parts List are not available as replacement parts.

Figure 22.

10–2. MECHANISM EXPLODED VIEW (LOWER)



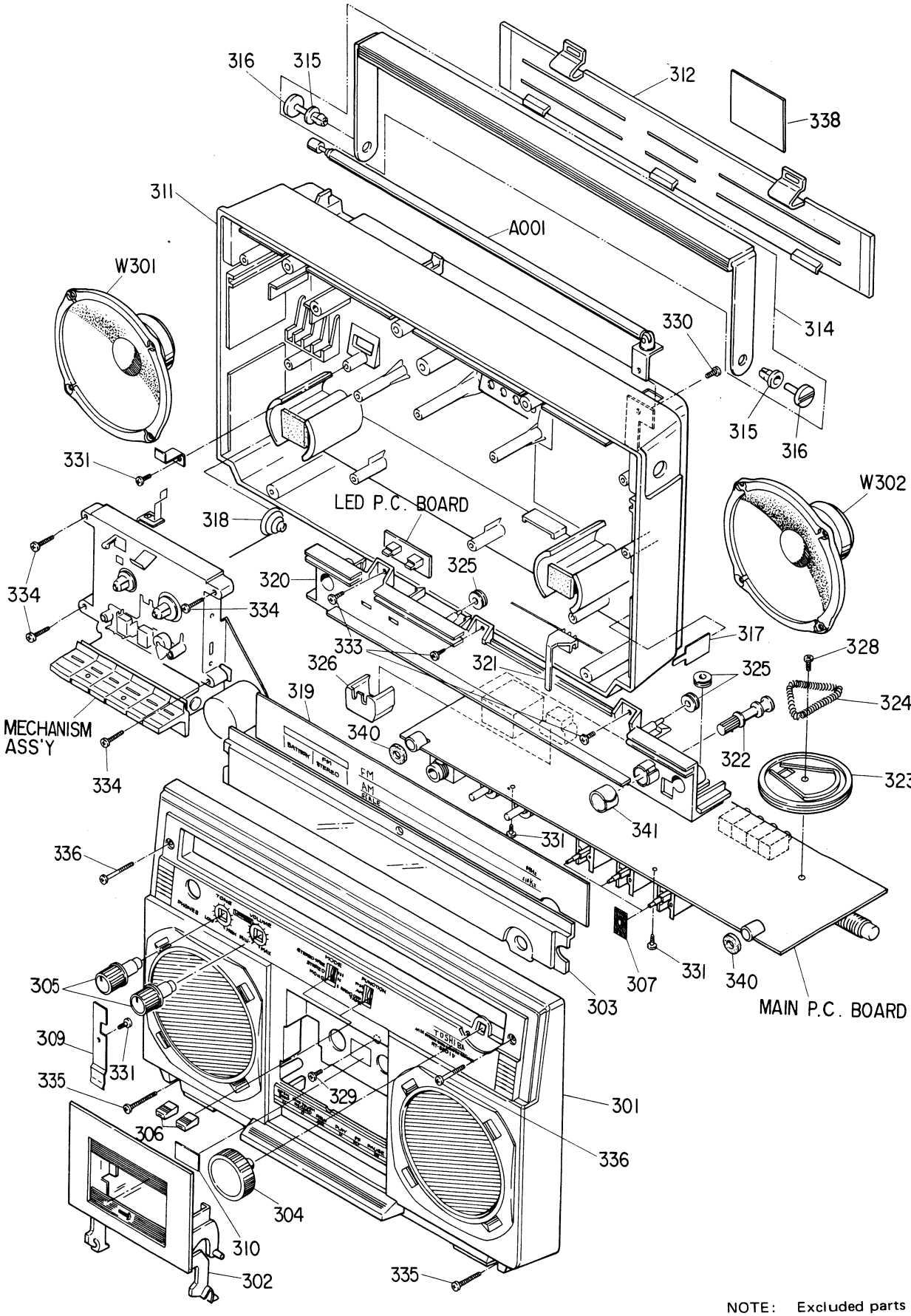
NOTE: Excluded parts in the Parts List are not available as replacement parts.

Figure 23.

10–3 . MECHANISM PARTS LIST

Symbol No.	Part No.	Description
	MECHANISM	
1	22217351	Head, Record/Playback, HRPT-73
2	25719545	Head Ass'y, Erase
3	25764550	Washer
4	25772254	Spring, Back Tension
5	25782253	Lever, Cassette Up
6	25756247	ASO Gear
7	25773367	Spring, ASO Lever
8	25782247	ASO Lever
9	25782249	Lever, Detector
10	25783195	Bush
11	25741599	Operation Plate, Pause
12	25782173	Lever, Pause Lock
13	25741828	Operation Plate, Record
14	25782248	Lever, Record Lock
18	25764510	Washer
19	25751579	Gear, Flywheel
20	25725340	Holder, Flywheel
21	25754338	Hub Plate, Supply
22	25764549	Washer
23	25771617	Spring
24	25773370	Spring, Idler
25	25712348	Hub Plate, Take-Up
26	25772578	Spring, Back Tension
27	25756179	Gear, High-speed
28	25782251	Lever, Rewind
29	25782252	Lever, Fast Forward
30	25719491	Gear Ass'y, High-speed
31	25719495	Idler Mount Ass'y
32	25755154	Belt
33	25764398	Washer
34	25717391	Flywheel Ass'y
35	22707429	Screw, 2.6ø x 1.8mm x 4.9mm
36	25761238	Cushion, Motor
37	25791273	Motor Ass'y
38	25732340	Stop Plate
40	25741827	Operation Plate, Rewind
41	25741826	Operation Plate, Fast Forward
42	25741759	Operation Plate, Stop
43	25741844	Operation Plate, Play
44	25771955	Spring, Lock Slider
45	25771956	Spring, Operation Plate
46	25773369	Spring, Operation Plate
47	25773405	Spring, Crick
48	25773484	Spring, Operation Plate
49	25741825	Head Slider
50	25772585	Spring, Azimush
51	25773365	Spring, Head Slider
52	25773366	Spring, Pressure Roller
53	25783224	Head Mount
54	25717392	Pressure Roller Ass'y
57	22703280	Retaining Ring, 4ø
58	25761403	Button Cushion
59	25779133	Spring, Button
60	25837590	Knob, Pause
61	25837591	Knob, Fast Forward
62	25837592	Knob, Play
63	25837593	Knob, Rewind
64	25837594	Knob, Record
65	25837595	Knob, Stop
66	22707490	Screw, 3ø x 8mm, BID Tapping
67	22707301	Screw, 2.6ø x 8mm, BID Tapping
68	22707350	Screw, 2.6ø x 5mm, DTBID
69	22707494	Screw, 2.6ø x 4mm, DTBID
71	22707322	Screw, 2ø x 10mm, DTBID
72	25783226	Bush

10–1. CABINET EXPLODED VIEW



NOTE: Excluded parts in the Parts List are not available as replacement parts.

Figure 24.

11–2. CABINET PARTS LIST

CAUTION: The ⚠ mark, the symbol No. circled with rectangle in the schematic diagram and the shaded area in the parts list designate components which have special characteristics important for safety and should be replaced only with types identical to those in the original circuit or specified in the parts list.

Symbol No.	Part No.	Description
		CABINET PARTS
301	25881144	Front Cabinet Ass'y
302	25838700	Cassette Cover
303	25838701	Dial Cover
304	25837389	Knob, Tuning
305	25837387	Knob, Tone/Volume
306	25837390	Knob, Mode/Beat/Function
307	25858490	Switch Cover
309	25773554	Spring, Cassette
310	25824247	Reflector
311	25881173	Back Cabinet Ass'y
312	25838703	Battery Cover
314	25815222	Handle Ass'y
315	25835411	Washer, Handle
316	25835451	Bush, Handle
317	25864007	Contact, Battery
318	25776318	Spring, Battery
319	25828970	Dial Plate
320	22714085	Tuner Frame
321	22741361	Pointer (Cursor)
322	22749281	Tuning Shaft
323	22742223	Drum
324	22771306	Spring, Drum
325	22742162	Pulley
⚠ 326	22167688	Jack Back Cover
328	22707473	Screw, 2.6ø x 6mm, BID
329	22707303	Screw, 2.6ø x 10mm, BID Tapping
330	22707163	Screw, 3ø x 10mm, BID BLK
331	22707165	Screw, 3ø x 10mm, BID Tapping
333	22707276	Screw, 3ø x 16mm, BID Tapping
334	22707552	Screw, 3ø x 30mm, BID Tapping
335	22701334	Screw, 3ø x 35mm, Tapping, BLK
336	22707706	Screw, 3ø x 45mm, Tapping, Chrome
338	25828979	Nameplate (TA, TC)
338	25828978	Nameplate (AY)

12. PARTS LIST

CAUTION: The ⚠ mark, the symbol No. circled with rectangle in the schematic diagram and the shaded area in the parts list designate components which have special characteristics important for safety and should be replaced only with types identical to those in the original circuit or specified in the parts list.

Symbol No.	Part No.	Description
		IC'S, TRANSISTORS & DIODES
Q001		IC, TA7335P
Q101		IC, TA7614AP-Y-W/Y
Q201		IC, TA7323P-O, Y
Q301		IC, TA7232P
Q401		IC, TA7328AP
Q501		Transistor, 2SC1959-Y
Q901		Transistor, 2SC1959-Y
D002		Diode, 1S1555V
D201		Diode, TLR205
D401, 402, 403, 404		Diode, 1S1555V
D501		Diode, 1S1555V
D901		Diode, 05Z4.7
⚠ D902		Diode, 1B2C1 (T)
⚠ D903		Diode, 1B2Z1 (T)
D904		Diode, TLR205
		COILS & TRANSFORMERS
L001	22294428	Coil, FM RF
L002	22294427	Coil, FM Oscillator
L003	22265817	IF Transformer, FM
L102	22242853	Coil, AM Antenna
L105	22245380	Coil, AM Oscillator
L107	22264831	IF Transformer, AM
L108	22265816	IF Transformer, FM
L110	22264830	IF Transformer, AM
L112	22230106	Coil, Choke, 470μH
L501	22235182	Coil, Bias Oscillator
⚠ L901	22223972	Transformer, Power (TA, TC)
⚠ L901	22223989	Transformer, Power (AY)
		ELECTRICAL PARTS
S1	22195155	Switch, Lever, Function FM/AM/TAPE
S2	22195815	Switch, Slide, Record/ Playback
S4	22195290	Switch, Lever, Mode WIDE/STEREO/MONO
S9	22195555	Switch, Leaf, Motor
J301	22163778	Jack, Headphone, 6φ
J401, 402	22163666	Jack, EXT MIC, 3.5φ
J403, 404	22163666	Jack, AUX, 3.5φ
⚠ J901	22167864	AC Socket, 2P
Z001	22153121	Filter, FM RF
Z101	22153058	Filter, Ceramic, 10.7MS
A001	22124489	Rod Antenna
G401, 402	22154232	Microphone Unit
W301, 302	22152363	Speaker, 12cm, 3.2 ohm,
		CAPACITORS
		D=±0.5pF, J=±5%, K=±10%, M=±20%, Z=–20+80%
		ABBREVIATIONS: CD=Ceramic Disk, EL=Electrolytic, MY=Mylar, BL=Barrier Layer , NP=Non Polarity
		PP = Polypropylene
C001, 002, 003, 004, 006, 009, 011, 012	22308214	Variable, VC-4-82/140
C013	22342223	CD, 0.022mfd, 50V, Z
C014	22342223	CD, 0.022mfd, 50V, Z
C015	22362220	CD, 22pF, 50V, K
C016	22360132	CD, 15pF, 50V, J, CH
C017	22360315	CD, 12pF, 50V, J, TH
C018	22362330	CD, 33pF, 50V, K
C019	22342223	CD, 0.022mfd, 50V, Z
C104	22342223	CD, 0.022mfd, 50V, Z
C113	22360484	CD, 0.047mfd, 50V, Z
C114	22443101	EL, 100mfd, 10V
C115	22360484	CD, 0.047mfd, 50V, Z
C116	22360484	CD, 0.047mfd, 50V, Z
C117	22360329	BL, 0.022mfd, 25V, M
C118	22360329	BL, 0.022mfd, 25V, M
C119	22362101	CD, 100pF, 50V, K
C120	22342223	CD, 0.022mfd, 50V, Z
C121	22445100	EL, 10mfd, 16V
C122	22443101	EL, 100mfd, 10V
C123	22443470	EL, 47mfd, 10V
C124	22360484	CD, 0.047mfd, 50V, Z
C125	22349391	CD, 390pF, 50V, K
C126	22448478	EL, 0.47mfd, 50V
C201	22448478	EL, 0.47mfd, 50V
C202	22448478	EL, 0.47mfd, 50V
C203	22488228	EL, 0.22mfd, 50V
C204	22371102	MY, 1000pF, 50V, J
C205	22448478	EL, 0.47mfd, 50V
C207, 208	22349332	CD, 3300pF, 50V, K
C210	22443101	EL, 100mfd, 10V
C211	22362101	CD, 100pF, 50V, K
C301, 302	22342223	CD, 0.022mfd, 50V, Z
C303, 304	22349222	CD, 2200pF, 50V, K
C305, 306	22360484	CD, 0.047mfd, 50V, Z
C307, 308	22488339	EL, 3.3mfd, 50V
C309, 310	22349102	CD, 1000pF, 50V, K

Symbol No.	Part No.	Description
C311, 312	22447479	EL, 4.7mfd, 35V
C313, 314	22443470	EL, 47mfd, 10V
C315, 316	22442471	EL, 470mfd, 6.3V
C319, 320	22372154	MY, 0.15mfd, 50V, K
C322	22445220	EL, 22mfd, 16V
C323	22445331	EL, 330mfd, 16V
C325, 326	22342473	CD, 0.047mfd, 50V, Z
C401, 404	22448478	EL, 0.47mfd, 50V
C402, 403	22478478	EL, 0.47mfd, 50V, NP
C405	22443470	EL, 47mfd, 10V
C407, 408	22349332	CD, 3300pF, 50V, K
C409, 410	22349102	CD, 1000pF, 50V, K
C411, 412	22360327	BL, 0.01mfd, 25V, M
C413, 414	22488339	EL, 3.3mfd, 50V
C415, 416	22488228	EL, 0.22mfd, 50V
C417, 418	22362560	CD, 56pF, 50V, K
C419, 420	22349472	CD, 4700pF, 50V, K
C421, 422	22448109	EL, 1mfd, 50V
C425	22443470	EL, 47mfd, 10V
C426	22443221	EL, 220mfd, 10V
C427, 428	22349102	CD, 1000pF, 50V, K
C429, 430	22342223	CD, 0.022mfd, 50V, Z
C431	22448339	EL, 3.3mfd, 50V
C501	22321061	PP, 2200pF, 50V, J
C502	22360329	BL, 0.022mfd, 25V, M
C503	22349391	CD, 390pF, 50V, K
C504	22360329	BL, 0.022mfd, 25V, M
C505	22443221	EL, 220mfd, 10V
C901	22342223	CD, 0.022mfd, 50V, Z
C902	22443331	EL, 330mfd, 10V
C903	22342223	CD, 0.022mfd, 50V, Z
C904	22445101	EL, 100mfd, 16V
⚠ C905	22342223	CD, 0.022mfd, 50V, Z
⚠ C906	22342223	CD, 0.022mfd, 50V, Z
⚠ C907	22445222	EL, 2200mfd, 16V
C908	22342473	CD, 0.047mfd, 50V, Z

RESISTORS

Resistors are carbon film ¼W, ±5% unless otherwise noted.
PRC is short for the printed resistor circuit.
K=1000, M=1000000.

R001	22555473	47K ohm (PRC)
R002	22555681	680 ohm (PRC)
R102	22555682	6.8K ohm
R109	22555151	150 ohm (PRC)
R111	22555820	82 ohm
R112	22555392	3.9K ohm (PRC)
R113	22555182	1.8K ohm (PRC)
R114	22555820	82 ohm
R115		0 ohm TA7614AP-W
R115	22555279	2.7 ohm TA7614AP-Y
R116	22555151	150 ohm

Symbol No.	Part No.	Description
R117	22555151	150 ohm
R119	22555182	1.8K ohm (PRC)
R120	22555103	10K ohm (PRC)
R121	22555104	100K ohm (PRC)
R122	22555104	100K ohm (PRC)
R124	22555223	22K ohm
R201	22555102	1K ohm (PRC)
R202	22555682	6.8K ohm
R203	22658498	10K ohm, B, Semi-fixed Variable
R204	22555102	1K ohm (PRC)
R205		Open TA7323P-BN
R205	22555334	330K ohm TA7323P-R
R205	22555154	150K ohm TA7323P-O
R205	22555104	100K ohm TA7323P-Y
R206	22555332	3.3K ohm
R207	22555332	3.3K ohm
R208	22555104	100K ohm (PRC)
R209, 210	22555333	33K ohm
R211	22555101	100 ohm (PRC)
R301, 302	22651543	50K ohm, A, Variable, Tone
R303, 304	22651536	50K ohm, B, Variable, Volume
R305, 306	22555472	4.7K ohm (PRC)
R307, 308	22555151	150 ohm (PRC)
R309, 310	22555101	100 ohm
R311	22555339	3.3 ohm
R313, 314	22555822	8.2K ohm (PRC)
R401, 402	22555332	3.3K ohm (PRC)
R403, 404	22555683	68K ohm (PRC)
R405, 406	22555152	1.5K ohm (PRC)
R407, 408	22555472	4.7K ohm (PRC)
R409, 410	22555473	47K ohm (PRC)
R411, 412	22555152	1.5K ohm (PRC)
R413, 414	22555153	15K ohm (PRC)
R415, 416	22555333	33K ohm (PRC)
R417, 418	22555274	270K ohm (PRC)
R419, 420	22555331	330 ohm (PRC)
R421, 422	22555103	10K ohm (PRC)
R423, 424	22555394	390K ohm (PRC)
R425, 426	22555472	4.7K ohm (PRC)
R427, 428	22555102	1K ohm (PRC)
R429, 430	22555222	2.2K ohm (PRC)
R431	22555225	2.2M ohm
R432	22555222	2.2K ohm (PRC)
R501	22555220	22 ohm
R502	22555330	33 ohm
R503	22555182	1.8K ohm
R504	22555183	18K ohm (PRC)
R901	22555569	5.6 ohm
R902	22555221	220 ohm (PRC)
R903	22545562	5.6K ohm

Symbol No.	Part No.	Description
		ACCESSORIES
⚠ AC01	22176575	Cord, Power Supply (TA, TC)
⚠ AC01	22176468	Cord, Power Supply (AY)
AC02	22903017	Owner's Manual (TA)
AC02	22903018	Owner's Manual (TC)
AC02	22903038	Owner's Manual (AY)

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